1. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{8}{7}+\frac{4}{9}x>\frac{9}{6}x-\frac{8}{3}$$

A. (a,∞), where $a\in[-5.25,-3]$

B. (a,∞), where $a\in[0.75,6.75]$

C. $(-\infty,a)$, where $a\in[-4.5,-0.75]$

D. $(-\infty,a)$, where $a\in[1.5,7.5]$

E. None of the above.

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2. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-10x-10\geq 8x-8$$

A. $(-\infty,a]$, where $a\in[-0.63,-0.05]$

B. $(-\infty,a]$, where $a\in[-0.05,0.13]$

C. $[a,\infty)$, where $a\in[-0.03,0.27]$

D. $[a,\infty)$, where $a\in[-0.23,-0.1]$

E. None of the above.

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3. Using an interval or intervals, describe all the x-values within or including a distance of the given values.

No more than 7 units from the number 6.

A. $(-\infty,-1]\cup[13,\infty)$

B. $[-1,13]$

C. $(-1,13)$

D. $(-\infty,-1)\cup(13,\infty)$

E. None of the above

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4. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-7 - 7x \leq \frac{-59x - 3}{9} < 5 - 8x$$

A. $(a, b]$, where $a \in [12.75, 18.75]$ and $b \in [-8.25, -2.25]$

B. $[a, b)$, where $a \in [13.5, 16.5]$ and $b \in [-9, 2.25]$

C. $(-\infty, a] \cup (b, \infty)$, where $a \in [12, 15.75]$ and $b \in [-6, 0.75]$

D. $(-\infty, a) \cup [b, \infty)$, where $a \in [13.5, 16.5]$ and $b \in [-6.75, -1.5]$

E. None of the above.

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5. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{-7}{5} + \frac{3}{8}x \leq \frac{8}{7}x - \frac{8}{3}$$

A. $[a, \infty)$, where $a \in [-0.75, 3.75]$

B. $[a, \infty)$, where $a \in [-5.25, 0]$

C. $(-\infty, a]$, where $a \in [-4.5, 0.75]$

D. $(-\infty, a]$, where $a \in [-1.5, 9]$

E. None of the above.

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6. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-7 + 7x > 8x \text{ or } -3 + 7x < 9x$$

A. $(-\infty, a) \cup (b, \infty)$, where $a \in [0, 5.25]$ and $b \in [3.75, 13.5]$

B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-8.25, -4.5]$ and $b \in [-2.25, 4.5]$

C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-1.5, 3.75]$ and $b \in [5.25, 8.25]$

D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-9.75, -5.25]$ and $b \in [-2.25, 1.5]$

E. $(-\infty, \infty)$

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7. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-3 + 3x < \frac{35x + 5}{5} \leq 4 + 6x$$

A. $(-\infty, a] \cup (b, \infty)$, where $a \in [-2.25, 0.75]$ and $b \in [-1.5, 3.75]$

B. $(-\infty, a) \cup [b, \infty)$, where $a \in [-1.65, 0.15]$ and $b \in [2.25, 9]$

C. $[a, b)$, where $a \in [-4.2, 0.67]$ and $b \in [-1.5, 6]$

D. $(a, b]$, where $a \in [-5.25, 0]$ and $b \in [1.5, 6]$

E. None of the above.

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8. Using an interval or intervals, describe all the x-values within or including a distance of the given values.

Less than 7 units from the number -2.

A. $(-\infty, -9] \cup [5, \infty)$

B. $(-\infty, -9) \cup (5, \infty)$

C. $(-9, 5)$

D. $[-9, 5]$

E. None of the above

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9. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$5 + 3x > 5x \text{ or } 6 + 7x < 8x$$

A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-1.5, 3.75]$ and $b \in [1.5, 9.75]$

B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-8.25, -1.5]$ and $b \in [-3.75, 0.75]$

C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-0.75, 3.75]$ and $b \in [3.75, 6.75]$

D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-7.5, -1.5]$ and $b \in [-3.75, 0.75]$

E. $(-\infty, \infty)$

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10. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$4x - 3 \geq 9x - 6$$

A. $[a, \infty)$, where $a \in [-0.56, 1.55]$

B. $[a, \infty)$, where $a \in [-0.75, -0.54]$

C. $(-\infty, a]$, where $a \in [-1.4, 0.2]$

D. $(-\infty, a]$, where $a \in [-0.2, 4.4]$

E. None of the above.
